Melolonthinae (Coleoptera) from the Three Kings Islands

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Introduction

The five specimens of melolonthine coleoptera dealt with in this paper were collected by Mr. E. G. Turbott and Mr. J. S. Edwards during May, 1946, and January, 1953, respectively, while visiting the islands to study regeneration of vegetation following the eradication of goats which had previously caused much havoc in the area.

In correspondence, Mr. Turbott writes: ". . . I mentioned the beetle (as an *Odontria*) in my paper (p. 262) because I thought it might be characteristic of Great Island during the days of the goat-induced park-like vegetation (kanuka canopy, with sedges, etc., forming a ground layer). It seemed possible that this situation would change with regeneration of a mixed forest. . . . I should add, however, that there were quite a few coming to the light in May, 1946, which were not captured." The conclusion embodied in this statement by Mr. Turbott is quite likely to be correct, and it will be very interesting to determine whether or not this species of *Odontria* becomes less plentiful as forest regeneration proceeds.

It is less likely that the second species (*Xylostygnus piceus* Broun) will be affected by the vegetational change.

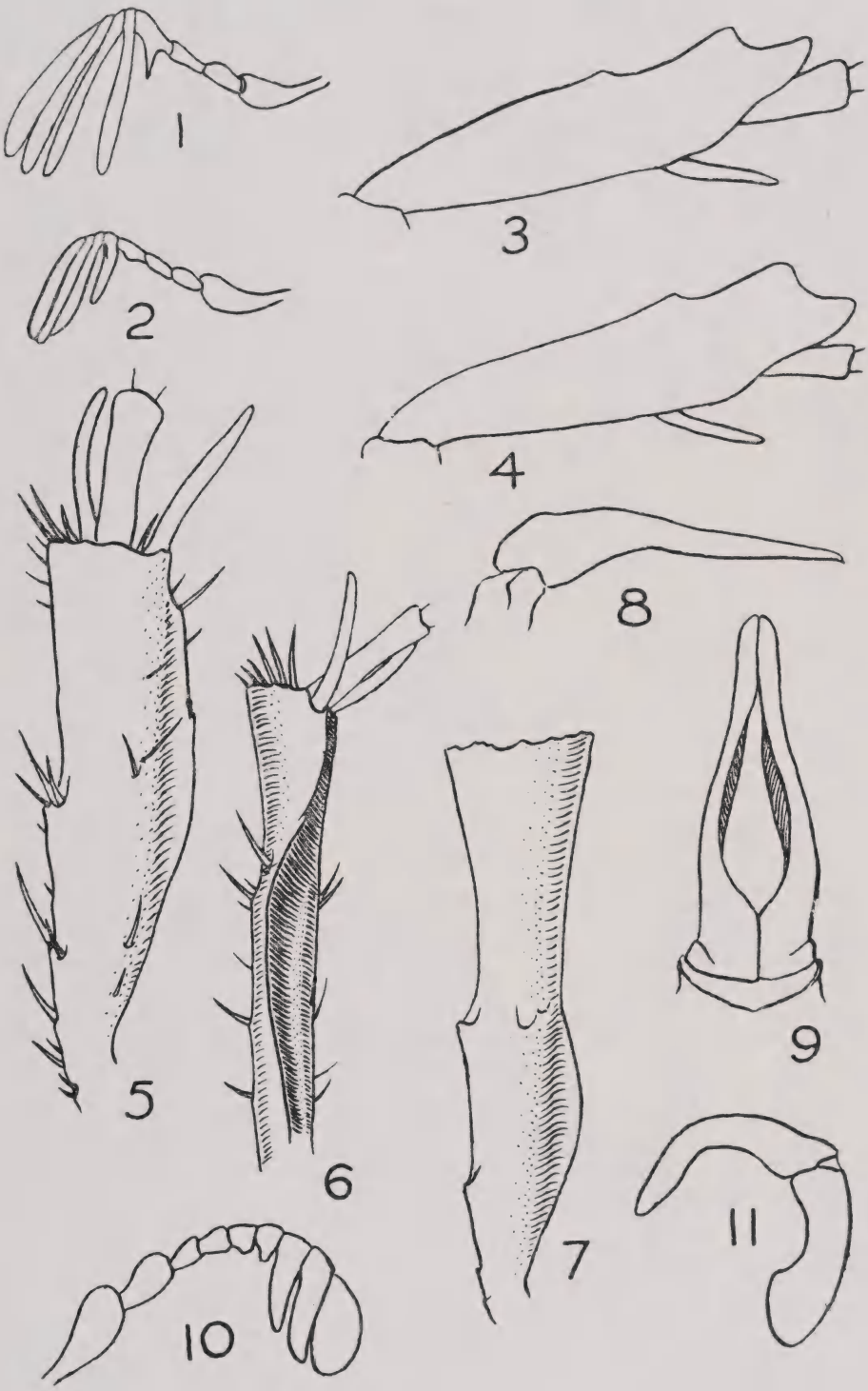
Collections of insects from the outlying islands about New Zealand are of great value in assessment of inter-specific relationships. In the case of the *Odontria* species herein described, this is amply demonstrated, and even the *Xylostygnus* species has characters which, should further evidence be forthcoming from other islands, may affect the status of *X. brookesi*. It is therefore of the utmost importance that our outlying and coastal islands should be carefully studied and collected.

The opportunity of studying this small but interesting collection has been accepted with gratitude, and it is with pleasure that due acknowledgment is made to the Director and the Entomologist of the Auckland Institute and Museum for the loan of the specimens.

Xylostygnus piceus Broun. Figs. 10, 11.

1881—*Xylostygnus piceus* Broun. Man. N.Z. Coleopt., IV, p. 956.

The single male specimen of this species in the collection was taken by Mr. J. S. Edwards amongst rocks on the north-west cliffs of Great Island. Description of the species can be found in Broun (1881), or Given (1952, p. 100).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EXPLANATION OF FIGURES.

Figure

1. *Odontria carinata* n. sp. male antenna.
2. „ „ „ female antenna.
3. „ „ „ male fore tibia.
4. „ „ „ female fore tibia.
5. „ „ „ male hind tibia, anterior aspect.
6. „ „ „ male hind tibia, ventral aspect.
7. „ „ „ female hind tibia, anterior aspect (spines omitted).
8. „ „ „ male parameres, lateral.
9. „ „ „ male parameres, postero-dorsal.
10. *Xylostygnus piceus* Broun male antenna.
11. „ „ „ parameres and basal shield, lateral.

The specimen under discussion is similar to the type, except for the pronotal outline which is similar to that of *X. brookesi* Broun (see Given, 1952, plate 21). This is a genus which is apparently confined to the north-east coast of New Zealand and the nearby coastal islands. Of material so far collected, specimens from the mainland (near Auckland and Whangarei) show strongest relationship to *X. brookesi*, diverging in the direction of *piceus* in northern specimens. Specimens from the islands (Tiritiri, Mokohinau, Three Kings) are of *piceus* affinity, diverging towards *brookesi* in the north (Three Kings). It is possible that if the genus is found on other islands and further north on the mainland, the species *brookesi* may collapse. Recent work at the British Museum (Natural History) indicates that through the species *Ocnodus unidentatus* Lea, the genus *Xylostygnus* Broun may ultimately collapse under *Ocnodus* Burm.

The figures (10, 11) illustrate the antenna and male genitalia of the Three Kings specimen.

Odontria carinata n. sp. Figs. 1-9.

Male: Colour rich deep red brown with faint alternate interstitial mottling on elytra, head piceus or dark brown, ventral surface somewhat lighter and more reddish, legs red brown. Pronotum and elytra, with a fine moderately dense brassy pilosity, sternal elements with pilosity rather longer.

Head large, coarsely, uniformly and moderately closely punctate on clypeus and frons; eyes prominent; antennae (fig. 1) quadrilamellate, with an internal process on joint 4. Fore tibia (fig. 3) tridentate; hind tibia highly distinctive, being strongly and somewhat sinuously carinate ventrally (figs. 5, 6).

Genital parameres (claspers) elongate, slender, and almost bilaterally symmetrical (figs. 8, 9).

Length, 17.5 mm.

Female: As male except for antenna (fig. 2) and hind tibia (fig. 7). The fact that the fore tibia illustrated in fig. 4 is less acute apically than that of the male is probably due to wear.

Types

Holotype male, collected by E. G. Turbott, Great Island, at light, May 5, 1946. Allotype female, collected by J. S. Edwards, Great Island, amongst rocks, north-west cliffs, January 5, 1953. Paratype

male, collected by E. G. Turbott, Great Island, May 5, 1946, from kanuka (*Leptospermum ericoides* A. Rich.). Paratype female, collected by J. S. Edwards, Great Island, amongst rocks, north-west cliffs, January 5, 1953.

All type material is in the collection of the Auckland Institute and Museum.

Remarks

Apart, perhaps, from *O. magnum* Given, this is the largest known member of the genus *Odontria*. In colour and vestiture it is very similar to *O. xanthosticta* White, but in genitalia is closer to *marmorata* Broun or perhaps *striata* White or *varicolorata* Given. In antennal characters, closest affinity appears to be with *sylvatica* Broun, *velutinum* Given, *xanthosticta* White, and *varicolorata* Given. The carinate hind tibiae are very distinctive, and perhaps unique in the genus.

REFERENCES.

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